

IN THE CLAIMS:

1.     **(Original)** A valve 100 for a brake control actuator 101 comprising:  
a rod 102 operable between respective operating conditions to selectively allow passage of brake fluid through the valve;

a ball 104 affixed at one end of the rod, the ball including a sealing section 106 that upon engagement against a ball-receiving seat in the valve blocks passage to brake fluid therethrough, the ball further including a mounting section 110 integral with the sealing section, the mounting section configured to provide a reduced footprint relative to an spheroidal footprint and enable a strong mechanical joint between the mounting section and the rod.

2.     **(Original)** The valve of claim 1 wherein the mounting section comprises a pin 120 and the rod includes a bore configured to receive the pin.

3.     **(Original)** The valve of claim 1 wherein the mounting section comprises a bore and the rod includes a pin configured to engage the bore.

4.     **(Previously Presented)** A valve for a brake control actuator comprising:

a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve; and

a ball affixed at one end of the rod, the ball including a sealing section that upon engagement against a ball-receiving seat in the valve blocks passage to brake fluid therethrough, the ball further including a mounting section integral with the sealing section, the mounting section configured to provide a reduced footprint relative to a spheroidal footprint and enable a strong mechanical joint between the mounting section and the rod, wherein the mounting section comprises a cylindrical section circumferentially defining a midsection of the ball.

5. **(Currently Amended)** A valve for a brake control actuator comprising:

a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve; and

a ball non-rotatingly affixed at one end of the rod, the ball including a sealing section comprising a first spherical segment that upon engagement against a ball-receiving seat in the valve blocks passage to brake fluid therethrough, the ball further including a mounting section integral with the sealing section, the mounting section comprising a second spherical segment configured to provide a reduced footprint relative to a full spheroidal footprint and enable a strong mechanical joint between the mounting section and the rod, wherein the mounting section further comprises a cylindrical section circumferentially defining a midsection of the ball and configured to join said first and second spherical segments, said first spherical segment comprising a larger volume relative to the second spherical segment, and wherein the cylindrical section is bounded at opposite axial ends thereof by corresponding angled surfaces.

6. **(Previously Presented)** A valve for a brake control actuator comprising:

a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve; and

a ball affixed at one end of the rod, the ball including a sealing section that upon engagement against a ball-receiving seat in the valve blocks passage to brake fluid therethrough, the ball further including a mounting section integral with the sealing section, the mounting section configured to provide a reduced footprint relative to a spheroidal footprint and enable a strong mechanical joint between the mounting section and the rod, wherein the mounting section comprises a V-shaped notch.

7. **(Previously Presented)** A valve for a brake control actuator comprising:

a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve; and

a ball affixed at one end of the rod, the ball including a sealing section that upon engagement against a ball-receiving seat in the valve blocks passage to brake fluid therethrough, the ball further including a mounting section integral with the sealing section, the mounting section configured to provide a reduced footprint relative to a spheroidal footprint and enable a strong mechanical joint between the mounting section and the rod, wherein the mounting section comprises a hyperboloid section defining a midsection of the ball.

8. **(Original)** A method for arranging a valve 100 for a brake control actuator 101, the valve including a rod 102 operable between respective operating conditions to selectively allow passage of brake fluid through the valve, the method comprising:

configuring (e.g., 204) a ball affixable at one end of the rod, the ball being configured to include a sealing section, and a mounting section integral with the sealing section;

configuring (e.g., 206) the sealing section so that upon engagement against a ball-receiving seat, the sealing section blocks passage to brake fluid therethrough;

configuring (e.g., 208) the mounting section to provide a reduced footprint relative to an spheroidal footprint while enabling a strong mechanical joint between the mounting section and the rod;

configuring (e.g., 210) the end of the rod to correspond with the mounting section of the ball; and

affixing (e.g., 312) the ball to the end of the rod.

9. **(Original)** The method of claim 8 wherein the mounting section is configured as a pin and the rod includes a bore configured to receive the pin.

10. **(Original)** The method of claim 8 wherein the mounting section is configured to define a bore and the rod includes a pin configured to engage the bore.

11. **(Previously Presented)** A method for arranging a valve for a brake control actuator, the valve including a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve, the method comprising:

- configuring a ball affixable at one end of the rod, the ball being configured to include a sealing section, and a mounting section integral with the sealing section;

- configuring the sealing section so that upon engagement against a ball-receiving seat, the sealing section blocks passage to brake fluid therethrough;

- configuring the mounting section to provide a reduced footprint relative to a spheroidal footprint while enabling a strong mechanical joint between the mounting section and the rod, and wherein the mounting section is further configured as a cylindrical section circumferentially defining a midsection of the ball;

- configuring the end of the rod to correspond with the mounting section of the ball; and

- affixing the ball to the end of the rod.

12. **(Currently Amended)** A method for arranging a valve for a brake control actuator, the valve including a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve, the method comprising:

configuring a ball non-rotatingly affixable at one end of the rod, the ball being configured to include a sealing section comprising a first spherical segment, and a mounting section integral with the sealing section;

configuring the sealing section so that upon engagement against a ball-receiving seat, the sealing section blocks passage to brake fluid therethrough;

configuring the mounting section as a second spherical segment to provide a reduced footprint relative to a full spheroidal footprint while enabling a strong mechanical joint between the mounting section and the rod, and wherein the mounting section is further configured as a cylindrical section circumferentially defining a midsection of the ball to join said first and second spherical segments, said first spherical segment comprising a larger volume relative to the second spherical segment, and the cylindrical section is bounded at opposite axial ends thereof by corresponding angled surfaces;

configuring the end of the rod to correspond with the mounting section of the ball; and

affixing the ball to the end of the rod.

13. **(Previously Presented)** A method for arranging a valve for a brake control actuator, the valve including a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve, the method comprising:

configuring a ball affixable at one end of the rod, the ball being configured to include a sealing section, and a mounting section integral with the sealing section;

configuring the sealing section so that upon engagement against a ball-receiving seat, the sealing section blocks passage to brake fluid therethrough;

configuring the mounting section to provide a reduced footprint relative to a spheroidal footprint while enabling a strong mechanical joint between the mounting section and the rod, and wherein the mounting section is configured as a V-shaped notch;

configuring the end of the rod to correspond with the mounting section of the ball; and

affixing the ball to the end of the rod.

14. **(Previously Presented)** A method for arranging a valve for a brake control actuator, the valve including a rod operable between respective operating conditions to selectively allow passage of brake fluid through the valve, the method comprising:

configuring a ball affixable at one end of the rod, the ball being configured to include a sealing section, and a mounting section integral with the sealing section;

configuring the sealing section so that upon engagement against a ball-receiving seat, the sealing section blocks passage to brake fluid therethrough;

configuring the mounting section to provide a reduced footprint relative to a spheroidal footprint while enabling a strong mechanical joint between the mounting section and the rod, and wherein the mounting section comprises a hyperboloid section defining a midsection of the ball;

configuring the end of the rod to correspond with the mounting section of the ball; and

affixing the ball to the end of the rod.